

THE WORLD IN SPATIAL TERMS

6.1. Broad Concept: Students use maps, globes, atlases, and other technologies to acquire and process information about people, places, and environments.

Students:

1. Demonstrate that, in attempting to represent the round Earth on flat paper, all maps distort.
2. Explain that maps contain spatial elements of point, line, area, and volume.
3. Locate cardinal directions, poles, equator, hemispheres, continents, oceans, major mountain ranges, and other major geographical features of the Eastern and Western hemispheres.
4. Locate major countries of the Eastern and Western hemispheres and principal bodies of water, regions, and mountains.
5. Explain how latitude affects climates of continents.
6. Explain the relationship between lines of longitude and time zones.
7. Locate and define various large regions in the Eastern and Western hemispheres, and divide those regions into smaller regions based on race, language, nationality, or religion.
8. Ask geographic questions and obtain answers from a variety of sources, such as books, atlases, and other written materials; statistical source material; fieldwork and interviews; remote sensing; word processing; and GIS. Reach conclusions and give oral, written, graphic, and cartographic expression to conclusions.
9. Give examples of how maps can be used to convey a point of view, so that critical analysis of map sources is essential.
10. Explain that people develop their own mental maps or personal perceptions of places in the world, that their experiences and culture influence their perceptions, and that these perceptions tend to influence their decision-making.

Examples *Students wrap a sheet of butcher paper around a globe to make a pattern of the continents. Then, students peel the "skin" off the globe to determine what happens when it is laid flat out on a desk. Students use Venn diagrams to compare and contrast Mercator maps, polar maps, Goode's Homolosine map, and equal area maps, looking for the differences in distortions that are made on each (6.1.1).*

Students create a map of their neighborhood from a bird's-eye perspective. By drawing the map in three dimensions, the maps demonstrate the spatial elements of point, line, area, and volume (6.1.2).

With a partner and a map, students trade geographic clues and search the globe to find buried treasures in the Eastern Hemisphere and then in the Western Hemisphere (6.1.3).

Students research different countries in the Eastern or Western hemispheres. In the classroom, students present riddles about their countries for others to solve, after which they present to the class the principal bodies of water, regions, and mountain ranges in their countries, as well as the major cities and population demographics (6.1.4).

Students draw lines of longitude on a global map and fill in the corresponding time for each line as if it were 12:00 midnight in New York City (6.1.6).

THE WORLD IN SPATIAL TERMS (CONTINUED)

Students find and map the differences in climates on each continent. They draw conclusions about the effects of latitude on climate by analyzing their maps (6.1.5).

Students make a demographic map of Washington, DC, that includes information on race, language, nationality, and religion. In cooperative groups, students then create a demographic map of one of Washington, DC's sister cities in another part of the world (e.g., Athens, Greece; Bangkok, Thailand; Beijing, China; Brazzaville, Republic of the Congo; Canberra, Australia; Dakar, Senegal; Paris, France; and Seoul, South Korea) (6.1.7).

Students compare and contrast a modern scale map to an early 20th-century British Empire map. Students then determine what effect, if any, the politics of the time had on the production of the map (6.1.9).

Students interview one person who has recently moved to Washington, DC, and another who has lived in the area for at least 20 years. Students compare the perceptions of the two people about different aspects of the area, including reasons why they each feel as they do (6.1.10).

PLACES AND REGIONS

6.2. Broad Concept: Students acquire a framework for thinking geographically, including the location and unique characteristics of places.

Students:

1. Name and locate the world's continents, major bodies of water, major mountain ranges, major river systems, major countries, and major cities.
2. Give examples and analyze ways in which people's changing views of places and regions reflect cultural change.
3. Explain that the concept of "region" has been devised by people as a way of categorizing, interpreting, and ordering complex information about Earth.
4. Give examples of critical issues that may be region-specific and others that cross regional boundaries within the United States.
5. Identify a region where natural disasters occur frequently, and give examples of how international efforts bring aid to this region.

Examples *In small groups, students research one of the world's continents, including its major bodies of water, mountain ranges, river systems, countries, and major cities. Each group represents its findings to scale on butcher paper, assembling their drawings into a large world map (6.2.1).*

Students create a chart for one of the countries in South East Asia affected by the recent tsunami that includes the date, scale or severity of the tsunami, death toll, extent and nature of the destruction, and a list of aid groups that are working to alleviate the effects of the tsunami in their country (6.2.5).

HUMAN SYSTEMS

6.3. Broad Concept: Students identify and analyze the human activities that shape Earth's surface, including population numbers, distribution and growth rates, and cultural factors.

Students:

1. Explain key migration patterns and the interrelationships among migration, settlement, population distribution patterns, landforms, and climates (e.g., East Indian-Polynesian).
2. Explain the concept of population dynamics and, through maps, establish current world patterns of population distribution, density, and growth.
3. Identify the demographic structure of a population and reasons for variations between places, including developing and developed nations.
4. Relate population growth rates to health statistics, food supply, or other measures of well-being.
5. Map the distribution patterns of the world's major religions, and identify architectural features associated with each.
6. Describe the effect of religion on world economic development patterns, cultural conflict, and social integration.
7. Map the distribution pattern of the world's major languages, and explain the concept of a *lingua franca* (a widely used second language; a language of trade and communication).
8. Identify the cultural contributions of various ethnic groups in selected world regions and countries, including the United States.
9. Point out specific situations where human or cultural factors are involved in global conflict and identify different viewpoints in the struggle. Create scenarios under which these cultural factors would no longer trigger conflict.
10. Identify international organizations of global power and influence (e.g., the North Atlantic Treaty Organization/NATO, the United Nations, the European Union, the African Union, the Association of Southeast Asian Nations/ASEAN, the Non-Aligned Movement), and form committees to report on the influence and limits to influence of each one.

Examples *In cooperative groups, students research contemporary population dynamics in the United States. Students then create a color-coded map that demonstrates U.S. population distribution, growth, and density (6.3.2).*

Students compare the demographic structure of major cities in the United States to another major city of similar size in a developing nation. Students follow up the activity by comparing health statistics, food supplies, and average adult and infant mortality rates (6.3.3 and 6.3.4).

Students create a color-coded world map of the world's major religions and a three-dimensional model of the major architectural centers for each (6.3.5).

In cooperative groups, students research a period in world history during which religion played a key role in the events (e.g., Spanish involvement in the mid-Atlantic slave trade, the Crusades, the Protestant Reformation, or the Puritan arrival in the Americas). Each group creates a dramatic presentation on how the religion made an impact on the economic development, cultural conflict, and social integration of the time period (6.3.6).

HUMAN SYSTEMS (CONTINUED)

Students participate in a simulation marketplace activity and attempt to barter and trade various goods nonverbally. They repeat the exercise but with the ability to speak and communicate, noting the differences between each trial. Students also create a color-coded map of the world's languages, noting where more than one language is spoken and the reasons why (6.3.7).

Students research the natural state of Washington, DC, before the city was built, and they explain how the land transformed over time (6.3.8).

Students identify a cultural conflict that has occurred in recent history (e.g., the Israeli-Palestinian conflict, Hausa-Fulani conflict, Rwanda conflict, Sudan conflict, issues surrounding North African migrants in France, or illegal migration to the United States). In a reflective essay, students describe the causes of the conflict, views from both sides of the conflict, and the measures that have been taken to end the conflict (6.3.9).

Students act as a world coalition of global organizations to bring an end to the Congolese War. They conduct research to understand the ways in which several worldwide organizations have intervened to bring peace during times of conflict. Students then strategize ways in which the coalition of organizations might exert its influence to bring about change in the Congo (6.3.10).

ECONOMIC SYSTEMS AND URBANIZATION

6.4. Broad Concept: Students describe rural and urban land use, ways of making a living, cultural patterns, and economic and political systems.

Students:

1. Describe the worldwide trend toward urbanization, and graph this trend.
2. Understand the relationships between changing transportation technologies and increasing urbanization.
3. Explain that the internal structure of cities varies in different regions of the world, and give examples.
4. Analyze the changing structure and functions of cities over time.
5. Map the worldwide occurrence of the three major economic systems: traditional, command, and market. Describe the characteristics of each, and identify influences leading to potential change.
6. Explain the meaning of the word infrastructure, and analyze its relationship to a country's level of development.
7. Explain how change in communication and transportation technology is contributing to both cultural convergence and divergence. Explain how places and regions serve as cultural symbols (e.g., Jerusalem as a sacred place for Jews, Christians, and Muslims).
8. Summarize how cultural norms in a region influence different economic activities of men and women, including literacy, occupations, clothing, and property rights.
9. Identify patterns of economic activity in terms of primary (growing or extracting), secondary (manufacturing), and tertiary (distributing and services) activities.

ECONOMIC SYSTEMS AND URBANIZATION (CONTINUED)

- Examples** *Students plot population growth, economic growth, average yearly income per capita, and infant mortality rates of representative cities from around the world. After comparing the graphs, students compose a press release on the global trends toward urbanization (6.4.1).*
- Students study the history of the Washington, DC, Metro system, paying particular attention to the reasons for its development, the changes in technology associated with its operation, and the demographics that it serves (6.4.2).*
- Students study the history of Washington, DC, over the past century, paying particular attention to the architectural, demographic, and economic changes that have occurred and the reasons for those changes. Students synthesize this information and forecast how they envision the city will grow and change in the next century (6.4.4).*
- Students work to design an "economic utopia" that utilizes the best features of one or more of the three major economic systems. They compare their system to the U.S. market economy and answer the questions "Who pays?" and "Who benefits?" (6.4.5).*
- Students compare the infrastructure of the United States (governmental system, educational system, economic system, social system) to that of a developing country in both Africa and Asia (6.4.7).*
- Students research the cultural effects of corporations in the United States outsourcing to countries such as India and China (6.4.7).*

PHYSICAL SYSTEMS

6.5. Broad Concept: Students acquire a framework for thinking about Earth's physical systems: Earth-sun relationships, climate and related ecosystems, and landforms.

Students:

1. Recall and apply knowledge concerning Earth-sun relationships, including "reasons for seasons" and time zones.
2. Categorize elements of the natural environment as belonging to one of the four components of Earth's physical systems: atmosphere, lithosphere, biosphere, or hydrosphere.
3. Explain the difference between weather and climate.
4. Identify and account for the distribution pattern of the world's climates.
5. Describe distinct patterns of natural vegetation and biodiversity and their relations to world climate patterns.
6. Integrate understandings concerning the physical processes that shape Earth's surface and result in existing landforms: plate tectonics, mountain building, erosion, and deposition.
7. Give specific examples, in terms of places where they occur, of the physical processes that shape Earth's surface.
8. Describe the ways in which Earth's physical processes are dynamic and interactive.
9. Map with precision the occurrence of earthquakes over a given period (at least several months), and draw conclusions concerning regions of tectonic instability.

PHYSICAL SYSTEMS (CONTINUED)

10. Explain the safety measures people can take in the event of an earthquake, tornado, or hurricane, and map the occurrence of each of these natural hazards in the United States over a given period of time.
11. Use a variety of means to research the sources of different types of pollution in the local community and design measures that can be taken to reduce each type of pollution.

Examples *After watching a demonstration of a flashlight shining on a spinning globe, students research the effect of the sun's ability to illuminate only one area of the world at a time, and they connect this fact to the reasons for seasons around the world (6.5.1).*

Students compare climates west and east of the Rockies, Andes, and Ural mountain ranges and explain why rainfall amounts, temperature, winds, and types of plants and other life-forms differ in those areas (6.5.5).

Students research plate tectonic theory, paying particular attention to the "ring of fire" and the earthquakes that occur as a result of plate movement (6.5.7).

Students trace the geological trail of activity that caused the great tsunami of South East Asia (6.5.8).

Students select a pen-pal from students in other parts of the United States that recently have been affected by a natural disaster to learn about what to do and who to contact when such a natural disaster occurs (6.5.10).

Students serve as pollution clean-up task force agents for the Potomac River. They conduct local experiments to assess the level of water contamination and interview experts on how to solve these problems (6.5.11).

ENVIRONMENT AND SOCIETY

6.6. Broad Concept: Students analyze ways in which humans affect and are affected by their physical environment.

Students:

1. Identify human-caused threats to the world's environment: atmospheric and surface pollution, deforestation, desertification, salinization, overfishing, urban sprawl, and species extinction.
2. Identify ways in which occurrences in the natural environment can be a hazard to humans: earthquakes, volcanic eruptions, tornadoes, flooding, hurricanes and cyclones, and lightning-triggered fires.
3. Analyze the possible consequences of a natural disaster on the local community, and devise plans to cope with, minimize, or mitigate their effect.
4. Evaluate how and why the ability of Earth to feed its people has changed over time.
5. Analyze world patterns of resource distribution and utilization, and explain the consequences of use of renewable and nonrenewable resources.
6. Assess how people's perceptions of their relationship to natural phenomena have changed over time, and analyze how these changing perceptions are reflected in human activity and land use.

ENVIRONMENT AND SOCIETY (CONTINUED)

7. Explain and evaluate the relationships between agricultural land uses and the environment (grazing, grain cropping, and tree farming).
8. Develop policies that are designed to guide the use and management of Earth's resources and that reflect multiple points of view.
9. Explain why oil – one of the major resources of North Africa, West Africa, and the Middle East – is important to the economic and political stability of the hemisphere and the world.

Examples *Students engage in a debate about the issue of global warming after conducting research. In particular, they research the Kyoto Protocol and evaluate the opinions, hypotheses, evidence, and range of data used to argue for or against the usefulness of the protocol (www.sepp.org/ipcccont/Item09.htm, www.nasa.gov/audience/for_kids/kidsclub/flash/index.html, www.epa.gov/globalwarming/kids/, www.pewclimate.org/global-warming-basics/kidspage.cfm) (6.6.1).*

Students develop a hurricane safety guide for the school that includes information on needed supplies, adequate shelter, what to do during a hurricane if you are in school, and testimonials from people during hurricane season in Washington, DC (6.6.3).

Students research the methods and technology used by U.S. farmers to increase food production. Students engage in a debate about the benefits of organic farming versus conventional farming (6.6.4).

Students imagine that they are farmers with thousands of cattle, and they create a plan to preserve the grazing land (6.6.7).

Students choose a particular natural resource (e.g., oil, coal, water, natural gas, stone, sand, gravel, or salt) and assess its global supply and management. Based on their findings, students develop policies to improve the ways in which their natural resource is globally managed (6.6.8).

Students write an imaginative account of a day in the world without oil (6.6.9).